

ABSTRACT OF THE DISCLOSURE

Separation devices and systems are described which have a stationary phase and a mobile phase, wherein the stationary phase contains carbonaceous material having attached at least one organic group. The stationary phase which is used in the present invention has 5 the ability to dial in the selectivity by attaching the proper organic groups onto the carbonaceous material in order to achieve the desired separation. Various separation processes are described such as chromatography, electrophoresis, magnetic separations, membrane separations, and the like. The processes to accomplish these types of separations are also described.